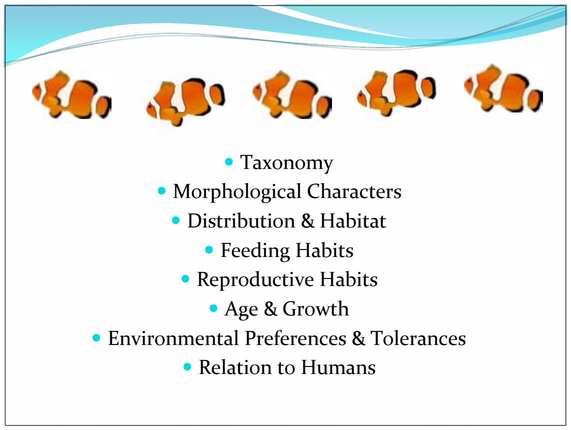
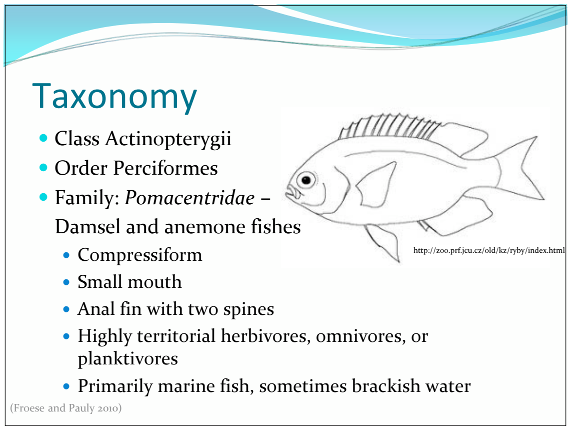
Amphiprion percula: The orange clownfish

By: Emily Bowers



- Taxonomy
- Morphological Characters
- Distribution & Habitat
- Feeding Habits
- Reproductive Habits
- Age & Growth
- Environmental Preferences & Tolerances
- Relation to Humans

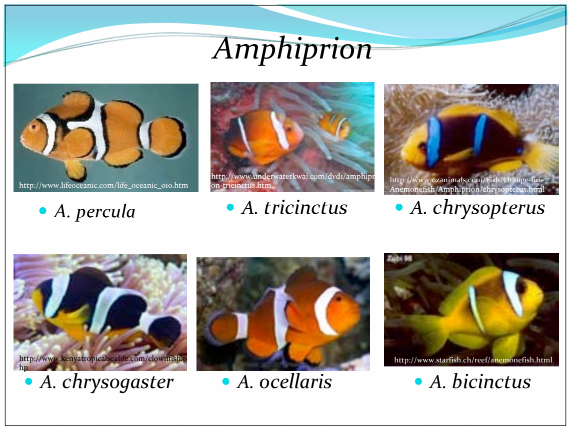


Taxonomy

- Class Actinopterygii
- Order Perciformes
- Family: *Pomacentridae* – Damsel and anemone fishes
  - Compressiform
  - Small mouth
  - Anal fin with two spines
  - Highly territorial herbivores, omnivores, or planktivores
  - Primarily marine fish, sometimes brackish water

http://zoo.prf.jcu.cz/old/kz/ryby/index.html

(Froese and Pauly 2010)



Amphiprion

http://www.lifeoceanic.com/life_oceanic_010.htm

- *A. percula*

http://www.underwaterkwaj.com/dvd1/amphiprion-tricinctus.htm

- *A. tricinctus*

http://www.ozanimals.com/Fish/Orange-fin-Anemonefish/Amphiprion/chrysopterus.html

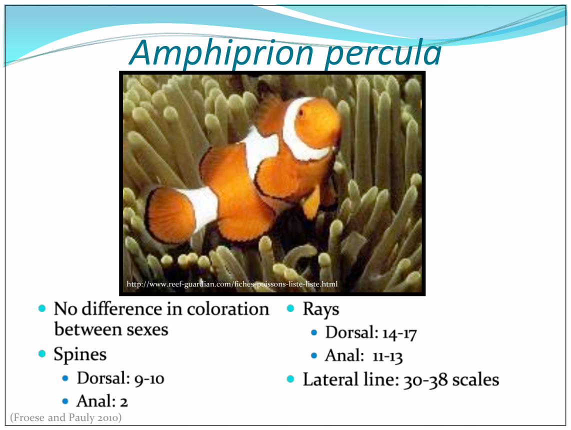
- *A. chrysopterus*

http://www.kenyatropicalsealife.com/clownfish.php

- *A. chrysogaster*
- *A. ocellaris*

http://www.starfish.ch/reef/anemonefish.html

- *A. bicinctus*

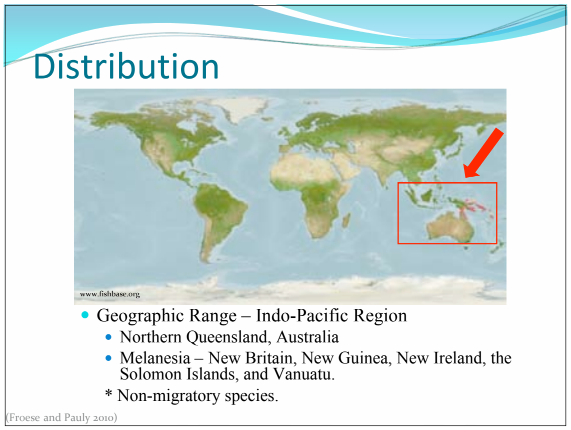


Amphiprion percula

http://www.reef-guardian.com/fiches-poissons-liste-liste.html

- No difference in coloration between sexes
- Spines
  - Dorsal: 9-10
  - Anal: 2
- Rays
  - Dorsal: 14-17
  - Anal: 11-13
- Lateral line: 30-38 scales

(Froese and Pauly 2010)



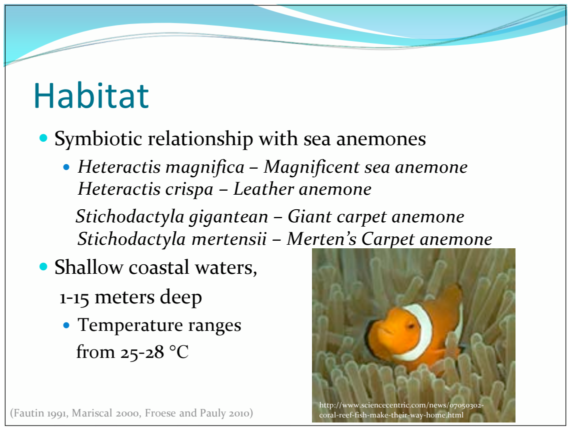
Distribution

www.fishbase.org

- Geographic Range – Indo-Pacific Region
  - Northern Queensland, Australia
  - Melanesia – New Britain, New Guinea, New Ireland, the Solomon Islands, and Vanuatu.

* Non-migratory species.

(Froese and Pauly 2010)



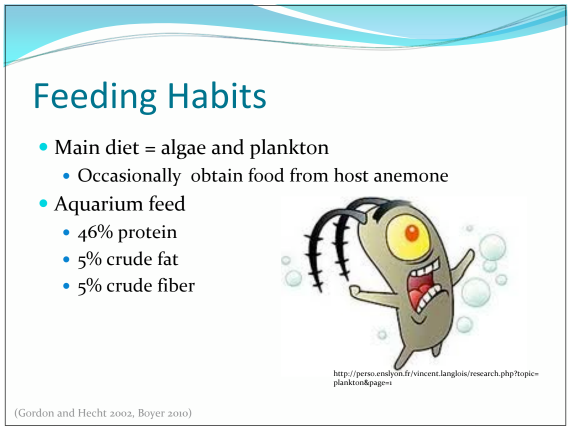
Habitat

- Symbiotic relationship with sea anemones
  - *Heteractis magnifica – Magnificent sea anemone*
    Heteractis crispa – Leather anemone

    Stichodactyla gigantean – Giant carpet anemone
    Stichodactyla mertensii – Merten's Carpet anemone
- Shallow coastal waters,
  1-15 meters deep
  - Temperature ranges
    from 25-28 °C

http://www.sciencecentric.com/news/07050302-coral-reef-fish-make-their-way-home.html

(Fautin 1991, Mariscal 2000, Froese and Pauly 2010)

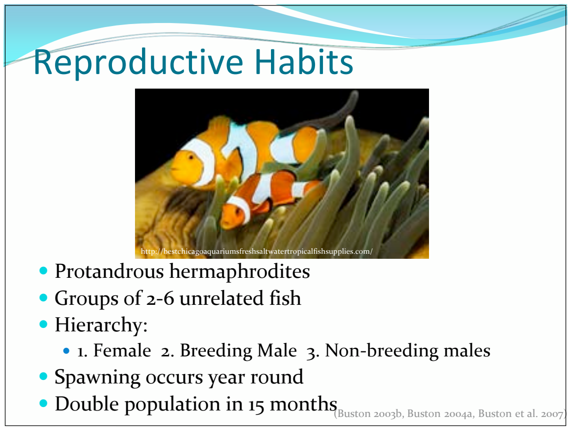


Feeding Habits

- Main diet = algae and plankton
  - Occasionally obtain food from host anemone
- Aquarium feed
  - 46% protein
  - 5% crude fat
  - 5% crude fiber

http://perso.enslyon.fr/vincent.langlois/research.php?topic=plankton&page=1

(Gordon and Hecht 2002, Boyer 2010)



Reproductive Habits

http://bestchicagoaquariumsfreshsaltwatertropicalfishsupplies.com/

- Protandrous hermaphrodites
- Groups of 2-6 unrelated fish
- Hierarchy:
  - 1. Female 2. Breeding Male 3. Non-breeding males
- Spawning occurs year round
- Double population in 15 months

(Buston 2003b, Buston 2004a, Buston et al. 2007)

Reproductive Habits

http://www.augsburg.edu/home/biology/photoofmonth/clownfishegg.html

- Pre-breeding behavior:
  - Males become "showy" by extending fins
  - Begin preparing the nest
- Spawning can last 30 minutes or up to 2 hours
  - The female will pass by the nest multiple times, releasing eggs at each pass.
  - Males fertilize the eggs externally.
- Male protects and oxygenates eggs
  - Clutch size 100-1000.
  - Diameter of 2 to 4 mm

(Boyer 2010)

Age & Growth

- Wild - 6 to 10 years
- Captivity – as long as 18 years
- Hierarchial system also based on size
  - Female -> Breeding male -> Non-breeding males
- Length:
  - Standard – 3.6 cm for male; 4.6 cm for female
  - Maximum – 11.0 cm

(Buston 2004a, Buston and Cant 2006, Froese and Pauly 2010)

Environmental Preferences

http://blogs.panda.org

- Marine coastal waters
- Sea anemones
- Shallow depths
- A study shows preference for:
  - Water near rainforest leaves
  - Water near islands
  - Water treated with sea anemone
- Correlates with shallow depths usually preferred

(Dixson et al. 2008, Boyer 2010, Froese and Pauly 2010)

Environmental Tolerances

- Ocean acidification - Basically CO2 dissolves into the ocean and leaves behind an acidic compound
- Leads to decreased coral calcification
- Possible adverse effects on *A. percula*
  - Disrupted olfactory senses
  - Unable to detect predators

(Dixson et al. 2010)

History in Relation to Humans

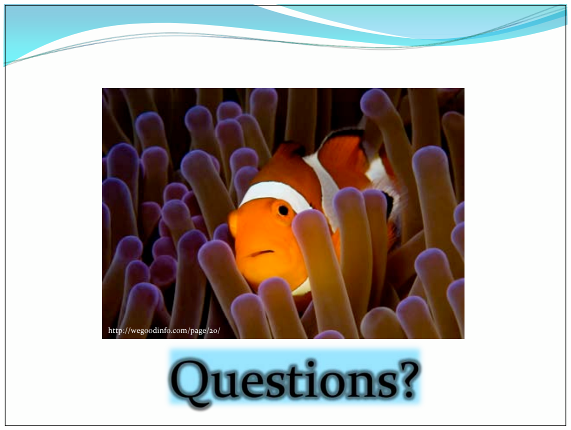
- Marine aquarium fish trade = 20% of imported fish
  - 8.9 millions dollars
- *A. percula*
  - Easy adaptability, coloration, and longevity
  - Popularity increased due to Disney's *Finding Nemo*
- Not listed as endangered
  - Captivity raised
  - Special permits
  - Year-round spawning

(Johnson et al. 2003, Boyer 2010, Froese and Pauly 2010)

Amphiprion percula

- Tropical waters near Australia
- Sea anemones - symbiosis
- Protrandous hermaphrodites
- Great aquarium fish
- Not endangered

http://www.practicalfishkeeping.co.uk/content.php?sid=2681



http://wegoodinfo.com/page/20/

Questions?